

## Improved French-Gulf ties reported

US, Jan. 3 (R)—Foreign Minister Jean Francois-Poncet today announced improved French economic and industrial cooperation with Gulf states, including possible compensation for any oil shortages resulting from loss of Iranian supplies. Reporting to the cabinet meeting on talks he had with Kuwaiti and United Arab Emirates leaders late last month, he said his trip "confirmed the emergence of views on the situation in the Middle East and enabled the signing of a new basis for further expansion of economic, industrial and cultural cooperation between France and those states." During Francois-Poncet's visit to Abu Dhabi, United Arab Emirates oil minister Mansur bin Zayed Al Nahyan pledged that the UAE would attempt with oil-exporting Gulf states to compensate for any French oil shortage resulting from the loss of supplies from Iran.

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## Boumedienne's heir named on Jan. 25

ALGIERS, Jan. 3 (R)—Algeria's acting head of state Rabah Bitat today fixed Jan. 25 for the opening of a congress of the National Liberation Front party which is expected to name a successor to the late President Houari Boumedienne. Mr. Bitat announced the date when he formally installed a commission to organize the congress, the official news agency APS said. It is thought that a new president could be elected before Mr. Bitat's 45-day interim leadership officially expires on Feb. 9. President Boumedienne died on Dec. 27.

## 6-hour cabinet meeting decides

# Egypt is ready to resume peace talks

CAIRO, Jan. 3, (R)—Egypt announced today it was ready to resume efforts to sign a peace treaty with Israel.

It reiterated that any treaty be based on a comprehensive peace and not a separate peace.

Yusuf's decision, announced by Minister Mustafa Khalil, a six-hour cabinet meeting, did not appear to advance by attempts to restart the stalemate talks.

President Anwar Sadat has said it is time that Egypt would resume the talks but only on the basis of a comprehensive settlement, meaning that a timetable for a self-rule on the West Bank and the Gaza Strip be linked to any bilateral treaty.

He would then be up to Mr. Sadat to decide how to establish a peace between Egypt and Israel.

He said contacts established by Vance were fruitful, then contacts could be resumed, he said.

The Egyptian decision was based on the outcome of a cabinet meeting last week. Details of this meeting were not so far been officially confirmed to Egypt, he said.

Officials have interpreted the outcome of the Israeli cabinet meeting as a mild softening of its position because the cabinet agreed to discuss self-rule for Palestinians.

It rejected the idea of a timetable which Egypt insists on. Khalil said it was agreed in the talks when he met Mr. Vance in Jerusalem last month that the Egyptian Foreign Minister would study the outcome of the talks in the Egyptian press and send their views to Mr. Vance.

Vance "irrespective of the other's point of view."

Dr. Khalil said three-quarters of today's Egyptian cabinet meeting had been devoted to foreign policy and the drafting of a statement on Egypt's position on the peace talks.

He gave an overall impression that no major breakthrough was in prospect immediately.

It would then be up to Mr. Vance to decide whether to contact each side, come to the Middle East for another round of talks with both sides or call another meeting similar to that in Brussels, he said.

Dr. Khalil said Mr. Vance might also choose to meet separately with him.

The official Middle East News Agency (MENA) reported today that Egyptian ambassadors to Arab countries are scheduled to have a three-day conference in Cairo next week during which Iran and the Horn of Africa are expected to be discussed.

MENA said the conference, which is to be held next Monday under the Foreign Minister Butros Butros Ghali, will discuss among other things the situations in a number of countries surrounding the Arab area and foreign intervention attempts in the Arab World.

The agency did not elaborate, but this appeared to be a reference to developments in Iran and the Horn of Africa.

The conference would also discuss the Arab situation in general, Egypt's bilateral relations with each Arab country and the problems facing Egyptian communities in Arab countries, MENA said.

## Officials report improved security in Lebanon

BEIRUT, Jan. 3 (R)—Lebanese and Arab Deterrent Force (ADF) authorities said today the security situation in the country had improved recently.

"Immediate measures will be taken to complete the removal of the remaining armed manifestations," the officials said in a statement issued after a meeting chaired by President Elias Sarkis.

The session was attended by Prime Minister Selim Al Hoss as well as by the commanders of the ADF and the Lebanese internal security forces.

The statement said the meeting reviewed progress towards removal of the "armed manifestations" in all regions of Lebanon where regular forces were stationed.

"A tangible improvement has been noted in this respect," the statement said.

The government has drawn up a plan to re-establish security and has entrusted its implementation jointly to the Syrian-dominated ADF and Lebanese forces.

In Idon, residents said Palestinian commandos fired at Israeli military aircraft which flew low over two refugee camps and a port of Tyre in southern Lebanon.

Israeli warships were also sighted off the South Lebanon coast, Palestinian sources said.

Cases at refugee camp schools run by the United Nations Relief and Works Agency were suspended and students sent home, the local residents said.

The commandos and their Lebanese leftist allies were reported yesterday to have been placed on alert after Israeli gunboats were sighted off Tyre earlier in the day.

Israeli warplanes flew over the whole southern part of the country yesterday on what Palestinian sources believed was a reconnaissance mission.

There has been a marked increase in Israeli military activity in the south recently. Israeli aircraft bombed and strafed guerrilla positions in South Lebanon last month, following commando attacks in Jerusalem.

In Tel Aviv a military spokesman announced tonight that Israeli gunboats shelled suspected Palestinian guerrilla bases near Tyre on the southern Lebanese coast on Sunday night.

The raid was carried out "in accordance with Israeli policy to strike against bases used by the terrorists to launch attacks against Israel," the spokesman said.

The spokesman did not identify the exact target and gave no further details about the naval attack.

## Higher Physical Fitness Council to be created

AMMAN, Jan. 3 (JNA)—His Majesty King Hussein today ordered the creation of a Higher Physical Fitness Council.

"The purpose of this council," the King said in a letter addressed to Prime Minister Mudar Badran, "is to formulate an integrated plan aimed at achieving a comprehensive renaissance in the fields of physical fitness and sports for the entire population."

The council, to be chaired by Mr. Badran himself, would include representatives of the ministries of education and youth and culture, the armed forces, the country's two universities and other specialized organizations, the King said.

## Iraq denies report it executed soldiers

BAGHDAD, Jan. 3 (R)—Iraq today denied a Kuwaiti newspaper report that 18 communist soldiers were executed in Iraq last month for forming party cells in the armed forces.

A ministry of information spokesman said the report, published today in the newspaper Al-Siyassah, was completely baseless and aimed at distorting Iraqi attitudes and undermining Iraqi policy.

The spokesman said Majed Abdel Rida, an Iraqi communist leader whose arrest was reported by Al-Siyassah, today published an article under his own name in the communist party newspaper Tariq Al-Shaab.

Al-Siyassah based its story on reports from "informed travellers," quoting them as also reporting the arrest of eight members of the Iraqi communist party central committee.

## Military governor of Madrid assassinated

MADRID, Jan. 3 (R)—Guerrilla gunmen killed the military governor of Madrid outside his home today in the sharpest provocation of Spain's armed forces since the death of Gen. Franco three years ago.

Maj.-Gen. Constantino Ortin Gil, 63, the man in charge of all troops stationed in the capital, was shot down by three bullets fired by two young men standing outside his central Madrid residence.

He was rushed to a nearby hospital but died before surgeons had a chance to operate. The fatal shot hit him in the forehead, according to a hospital statement.

Security forces in the Madrid area were immediately placed on general alert and a special watch was mounted on all road exits from the capital. The alert also went out to Madrid railway stations and the international airport.

Maj.-Gen. Ortin Gil, a married man, was the most prominent military man to be killed by guerrillas since the assassination in 1973 of Gen. Franco's Prime Minister, Admiral Luis Carrero Blanco.

The Basque separatist organization ETA claimed responsibility for the killing of Admiral Carrero Blanco, whose car was blown up by a bomb placed under a Madrid street.

ETA has also said it was responsible for the killing of five other military men in the past six months, including the adjutant of the Guipuzcoa military governor shot dead in San Sebastian yesterday.

Although nobody claimed responsibility for today's attack, it bore all the hallmarks of an ETA operation.

Four young men wearing anoraks were involved, according to police. Two kept watch outside the governor's home, which is on a busy street running alongside Madrid's central Retiro Park.

Another was in a cafe across the road and the fourth stood by a getaway car.

The two men standing outside the governor's residence opened fire as soon as he climbed out of the official car that had brought him home for lunch. His adjutant and chauffeur were unhurt.

The four ran to the car and sped away after the shots rang out. Spent cartridge cases found at the scene were of a type normally used by ETA, which is fighting for a completely independent Basque country.

## Substantial break from previous foreign policy

# Parliament accepts Bakhtiar

TEHRAN, Jan. 3 (R)—Former opposition politician Shahpour Bakhtiar was accepted by parliament today as Iran's new prime minister and immediately indicated he wanted the Shah to retain the throne.

Dr. Bakhtiar, asked by the Shah last week to try to form a civilian government to replace the military-led regime and end the country's political and economic crisis, still has to be formally appointed by the monarch—possibly tomorrow.

After his acceptance by the Senate and the Majlis (lower house), he appeared to discount press reports that he had asked the Shah to leave the country to appease the mass protest movement against his rule.

"I did not say that the king will leave. He expressed his desire to rest and leave for a holiday," Dr. Bakhtiar told a press conference.

"I hope to be able to reconcile popular inspiration and the legitimacy of the Shah."

A royal palace spokesman later reiterated recent palace statements that "the Shah has no intention of leaving the country except possibly for a holiday, depending on the situation."

The Shah's leading religious opponent, the exiled Ayatollah Ruhollah Khomeini, has said the Shah must leave Iran if law and order is to be restored.

Dr. Bakhtiar told today's press conference he hoped the Ayatollah would now return to Iran "as soon as he can."

But his statements indicated he wanted the Shah to remain, at least as a constitutional monarch.

The holiday mentioned by him and the palace spokesman appeared to be part of an agreement aimed at blunting the anti-Shah movement until Dr. Bakhtiar can restore some political and economic order, foreign diplomats said.

Dr. Bakhtiar indicated he would make substantial break from previous foreign policy in two years.

He said he did not think his government would sell oil to Israel or South Africa. Nor would it continue to be "the gendarme of the Gulf" although it would maintain its own security.

Dr. Bakhtiar described the Central Treaty Organisation alliance as "military dead."

Iran is linked in the Central Treaty Organisation alliance pact with Britain, Turkey and Pakistan. The United States participates not as a full member.

In Washington, meanwhile, Energy Secretary James Schlesinger said the United States would honour its agreements to provide oil to Israel if supplies to the Jewish state became critical as a result of events in Iran.

Dr. Bakhtiar said he thought Israel should reach agreement with its Arab neighbours, which he noted were Islamic countries like Iran. Asked about possible interference by the Soviet Union in Iran's crisis, Dr. Bakhtiar said his policy was to oppose interference from any quarter.

Dr. Bakhtiar was asked about reports that the United States was planning to send naval vessels to the Gulf as a show of strength while Iran goes through its worst crisis in at least 25 years.

He disclosed in reply that U.S. officials had sounded out his views on the Gulf, the world's most important oil route, three months ago. But he said the problem was exaggerated, adding:

"We have the right to have security in the Gulf..."

"I told the American privately when asked me, and I tell you all, we are going to have our own security but we will not, from now on, be the gendarme of the Persian Gulf. We will defend our coast and our country if it is necessary."

The future premier said his government and the Iranian people were not anti-foreign. He regretted that many foreigners had left Iran in recent weeks, saying he would do all he could to allow useful foreigners to return but to keep out those who were not needed.

Most Iranian cities were quieter today than of late, but reports came in of large-scale violence yesterday in Qazvin, Kermanshah and Dezful. Kermanshah doctors, reached by telephone, spoke of between 10 and 25 people killed in clashes between troops and anti-Shah protesters. Troops imposed a special daytime curfew to remove bodies, the doctors said.

Doctors in Dezful reported 12 people killed in similar incidents yesterday while anti-Shah sympathisers in Qazvin described the town as "looking like it has been bombed."

The military governor of the southern oil province of Khuzestan said today talks with striking petroleum workers about resuming production were continuing.

The official radio quoted Gen. Boghrat Jaffarian as saying that two demands of the workers had been met. They were withdrawal of soldiers sent to the oil installations to guard the personnel and the release of detained workers.

The politically-inspired strike has stopped oil exports from Iran, the world's second largest exporter after Saudi Arabia.

In Los Angeles the Shah's mother was under protective guard in a secret location today after 500 anti-Shah demonstrators stormed the estate where she was staying and started fires in the grounds.

In her 90's, the Shah's mother Tadj El Molouk was moved from the estate under cover of darkness last night after some of the demonstrators threatened to return and burn down the mansion, police said.

The mansion is owned by a sister of the Shah, Princess Shams. His mother arrived there last Friday night from Iran.

A television news station here said the Shah was negotiating to buy a big plot of land in a wealthy part of Los Angeles, but this report could not be confirmed.

In London, the British post office said today it had suspended all air mail services to Iran because of the increasing difficulty of getting aircraft in and out of the country.

A spokesman said surface mail was still being sent and appeared to be reaching its destination but for the time being air mail was being stored in Britain.

## Atlantic "Big Four" to discuss key issues

PARIS, Jan. 3 (R)—East-west relations and the turmoil in Iran will be among the key issues when western leaders meet this week on the French West Indian holiday island of Guadeloupe.

At their new-style summit on Friday and Saturday, the Atlantic "big four" will review the restless state of the world from the peaceful vantage point of a Caribbean beach.

At talks in a straw-roofed shelter, U.S. President Carter, French President Valery Giscard d'Estaing, West German Chancellor Helmut Schmidt and British Prime Minister James Callaghan will go over the past year and discuss what lies ahead.

French officials said there would be no fixed agenda, formal decisions or joint communiqué on the meeting, which provides western leaders with a pause for reflection at a time when world events are moving fast.

But topics will certainly include the new diplomatic ties between the U.S. and China—and their implications for Washington's dealings with the Soviet Union.

Equally certain to figure in the talks are the U.S.-Soviet negotiations on a new strategic arms limitation (SALT) agreement and how they affect the defence of Western Europe.

The four leaders will be able to ponder the latest Soviet attitude to a SALT agreement, and whether Moscow is delaying matters because of Washington's recognition of China.

Other topics will include developments in Iran, vitally affecting western economic and strategic interests, unrest in Turkey, peace negotiations between Israel and Egypt, and the guerrilla war in Rhodesia.

The latest oil price rise, energy conservation, and the delay in setting up the new European Monetary System (EMS) are among the most pressing economic issues, although the main accent will be on international politics.

But the Guadeloupe summit, at which each leader will be accompanied by only one senior aide, will not be the place for detailed talks.

"They will be discussing the entire international situation and how it affects their countries over a broad canvas in very relaxed surroundings," a French official said.

Diplomats said the idea for an informal conference of the four leaders, unencumbered by the need to follow an agenda or pro-

duces an agreement, emerged at the seven-nation economic summit in Bonn last July.

Although French officials are studiously vague about the origin of the proposal, the initiative clearly came from President Giscard d'Estaing, who will be the host.

Each leader will take his wife along for the trip and there will be time to spare for golf, tennis or a barbecue. They will stay in luxury bungalows overlooking the sea outside Pointe-a-Pitre, Guadeloupe's main town.

Prospects for a successful "Camp David-style" summit in Britain on the Rhodesian independence dispute appeared slim.

Before deciding whether to take the gamble, Mr. Callaghan will talk it over with President Carter at the four-power meeting of western leaders in Guadeloupe, officials said.

Their discussion may take place late on Saturday or early Sunday after the "big four" sessions are over, informed sources said.

The foreign office appeared flustered today by the apparent press leak of a gloomy report by Mr. Callaghan's special envoy to Southern Africa.

The envoy, former minister Cledwyn Hughes, spent three weeks talking to all sides in the bloody dispute to assess the chances of a conference producing a peace formula.

The Daily Telegraph said today that Mr. Hughes had concluded there was little doubt that the black and white leaders involved would accept an invitation to a conference.

"But if they do attend there is little chance of a successful conclusion," the paper quoted Mr. Hughes's report as stating.

A foreign office spokesman called the Daily Telegraph report "speculative" and said he could not explain how sections of an apparently secret paper had reached the press.

"The Prime Minister will not be taking any decision until after the Guadeloupe summit," the spokesman added.

Callaghan seeks Carter's advice on Rhodesia

LONDON, Jan. 3 (R)—British Prime Minister James Callaghan will seek President Carter's advice this weekend as he considers whether to risk calling an all-party Rhodesia conference.

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## Amman as a regional business centre: Has the bubble finally burst?

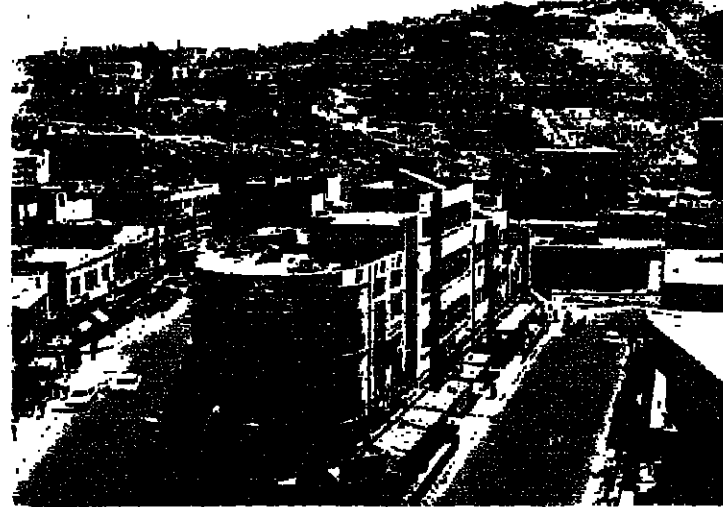
By Ian Kellas and Kamei Bani-Hani  
Special to the Jordan Times

AMMAN, Jan. 2 — "Regional business centre" has recently become one of Amman's favourite epithets. In the past three years, 162 foreign companies have chosen to set up regional headquarters in Amman. But according to officials in the Ministry of Industry and Commerce, about as many companies probably withdrew from Amman last year (1978) as registered here for the first time.

When the Registration of Foreign Companies Law (No. 46) was passed in November 1975, the

government was pleasantly surprised by the response. Twenty-three "regional offices" registered in the first three months and 100 in the following year. But since 1976, the pace has slowed down a bit and there were only 24 registrations in 1977. Although the ministry is not always officially informed when a company withdraws from Amman, one estimate is that 15 businesses moved out last year. That balanced out the 15 which registered before Christmas of 1978.

Law 46 offers attractive terms for companies wanting to set up a base from which to administer their branch offices throughout



Downtown Amman: Does it have the right magic?

(Continued on page 2)

## WORLD NEWS ROUNDUP

### Gen. Alexander Haig resigns next June

STEAM, BELGIUM, Jan. 3 (R)—U.S. Gen. Alexander Haig, NATO's supreme commander in Europe, announced today he would resign on June 30. Gen. Haig, who has been rumoured as a possible publican presidential candidate, told a news conference he had no plans at present to go into politics. Gen. Haig, who commands NATO forces from Norway to Turkey, took over from Gen. Andrew Dwyer on Dec. 15, 1974. He was chief of staff of the White House in the last weeks of the Nixon presidency.

### Chinese media urge sweeping changes

BEIJING, Jan. 3 (R)—A writer in China's main newspaper has advocated sweeping changes which would mean less state control of industry. He was apparently suggesting that industry be operated along Yugoslav lines with workers having almost total say in the running of plants. The suggestions, made in the People's Daily, organ of the communist party, proposed that the state set only a few important quotas and leave enterprises to get on with the job. Enterprises "could decide the form of pay and extra awards to their workers, under a unified state policy. They could raise workers' pay within limits. Enterprises would have certain powers to trade with foreign countries." The writer said that some people misunderstood the country's socialist system and believed all economic activity could be controlled by the state with enterprises given no leeway. The newspaper also threw its support behind the free speech campaign in the country when it said the nation's modernisation plans depended on the people's right to speak out. "Let people say what they wish, the heavens will not fall," the people's daily declared in an editorial.

### U.S.-backed radios banned from Moscow Olympics

UESSELDORF, WEST GERMANY, Jan. 3 (R)—The Soviet Olympic Committee does not intend to allow U.S.-backed Radio Free Europe and Radio Liberty to report next year's Olympic games in Moscow, Sports Minister Sergei Pavlov told the West German sports news agency S.D. today. He said the Munich-based stations employed emigres working for U.S. intelligence who tried to arouse hatred against the Soviet Union and its communist allies. In the national Olympic committee of the USSR we are categorically against the presence of even one of these stations. Everything will be done to prevent their presence," he said.

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# Jordan's population has trebled in last 20 years

By Ian Kellas  
Special to the Jordan Times

AMMAN — Jordan's population has trebled in the last 20 years. It has been swayed by some of the biggest waves of migration in recent history. A conservative estimate, it has tripled in size in the past twenty years. And it is still growing at twice as fast as the rest of the world's population.

the last three decades.

And yet the last time a proper census was carried out in the kingdom was 17 years ago. It is important to know how many people are living here in order to be able to plan services for the future. It is also important because Jordan's per capita income (over \$650) has now reached the stage where some international agencies are no longer prepared to give the country special low interest loans. If Jordan can be shown to have a bigger population than was thought, then it might get its loans cheaper.

Everyone in the business admits that he can produce little more than "guesstimates" for Jordan's total population. The official figure produced by the Department of Statistics for the end of 1977 is

just over 2.1 million (East Bank). Most experts feel that if anything that is on the low side. CARE, the American international development agency, have the highest figure with three million.

Mr. Fahad Hiyari, Chief of the Demographic Section at the Department of Statistics, told the Jordan Times that "the 1975 household and agricultural census was used as a base for our present population projections." The 1975 survey was a rough head count, which Mr. Hiyari thinks produced a fairly reliable general figure for the kingdom.

Dr. Alun Hill, the Regional Representative of the Population Council (another non-governmental international agency) comes out with approximately the same total figure of just over 2 million (for the East Bank in mid 1978) using two different methods. One is to project from the 1961 census, and add in the effects of migration—particularly following the 1967 war. The other is to use the total figure for the enrolment of boys in primary school, which is assumed to include nearly all the boys in that age group; using a population model defined by Jordan's birth and death rates, he extrapolates this figure to get the total population. This also comes out at just over the 2 million mark.

Dr. Awad Anani, Under-secretary at the Ministry of Labour, is dissatisfied with the official figure, and feels, like many others, that the 1961 census was an under-estimate. He reckons that there are 250,000 Jordanian workers abroad—which is a little below the estimate by the Economic Commission for Western Asia (ECA)—and that Jordan could not afford to export so many working people if it only had a population of 2 million. Working

This is the second of a three part series on the population of Jordan

from assumed labour participation rates he arrives at the figure 2.8 million for the East Bank.

CARE believes that even this is too low. Country Director Ralph Montee says that in its small-scale surveys of the villages of northeast Jordan, the agency discovered that there were up to twice as many people living there as there should have been according to the official statistics.

Mr. Montee thinks that the 1961 census missed a lot of people, that the average family size is not 6.6 people but nearer 8, and that the assumption of a stagnant rural population has to be dismissed. Since the rural population accounts for nearly half of the total in the country, he believes that the whole population on the

East Bank must be around 3 million.

In its child health study in 19 north Jordan villages CARE used several sources to assess population: the estimates of village mukhtar's and school teachers, house counts, and extrapolations from the number of primary school and pre-school children. Not all these sources agreed, but an acceptable figure was worked out, and according to Mr. Montee, was

found to be useful in the later provision of services.

According to Dr. Hill, however, no matter how good the sample count, it is very dangerous to generalise from this to get a total population. One fairly reliable method used by biologists is the "recapture" technique. You catch a batch of birds for instance, mark them, and then see how many of them turn up again when you take a second sample. "But no one has yet tried this with Jordanians" Dr. Hill said with a grin.

But what is much more important than the total population figure in some ways is how fast the population is growing. Estimates

for the natural increase rate range from 3.4 per cent per year, according to the Department of Statistics, to an extremely high 4.2 per cent according to Dr. Hill.

The natural increase rate is calculated from the number of births minus the deaths and takes no account of migration. According to Mr. Hiyari, there is now a net 0.9 per cent per annum immigration into Jordan—in spite of the famous "brain drain". A survey of bedouin tribes in the north of the kingdom discovered that large numbers of bedouins from Syria had moved into Jordan and some of them were being recruited into the army. There are also a lot of Egyptian and Pakistani immigrants. The total number of foreign workers in Jordan is now estimated at 80,000.

Whatever the total size of the population may be, there is little doubt that it is now growing at a faster rate than it used to. In the '50s the natural growth rate was probably around 2.8 per cent, reaching 3.2 per cent in 1961. Now it may be as much as 4.2 per cent. One unpublished official source says that the rate will continue at 4 per cent until 1985 and only slow down a little after that until the end of the century.

One important reason for the high natural growth rate is that people are living much longer. According to Dr. Hill the average Jordanian in 1961 could expect to live until he was 49 years old. Now the average life expectancy here is around 66 years.

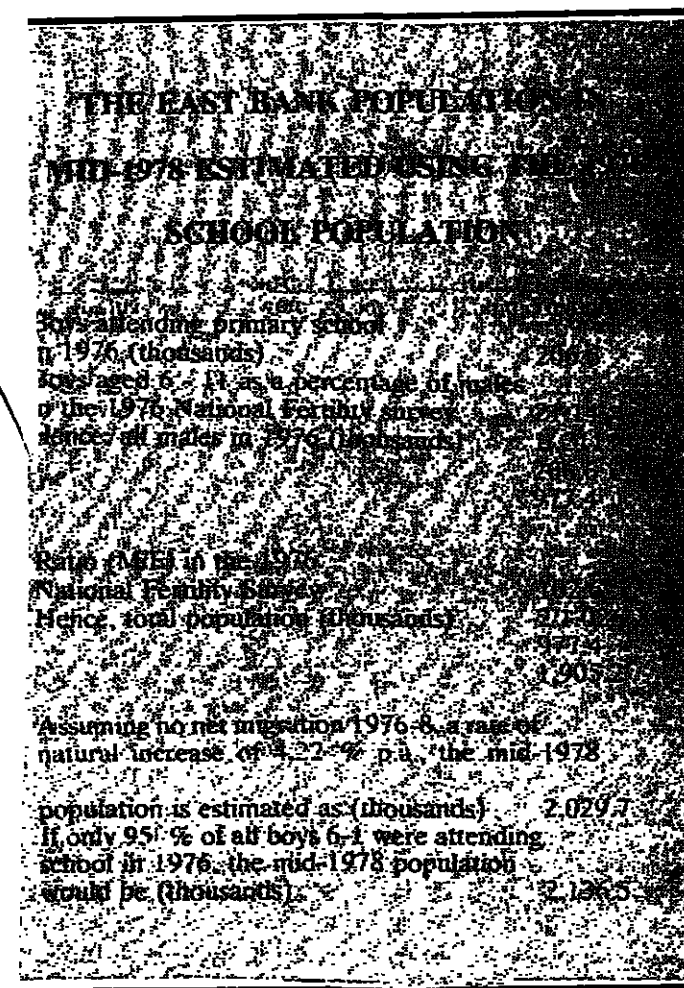
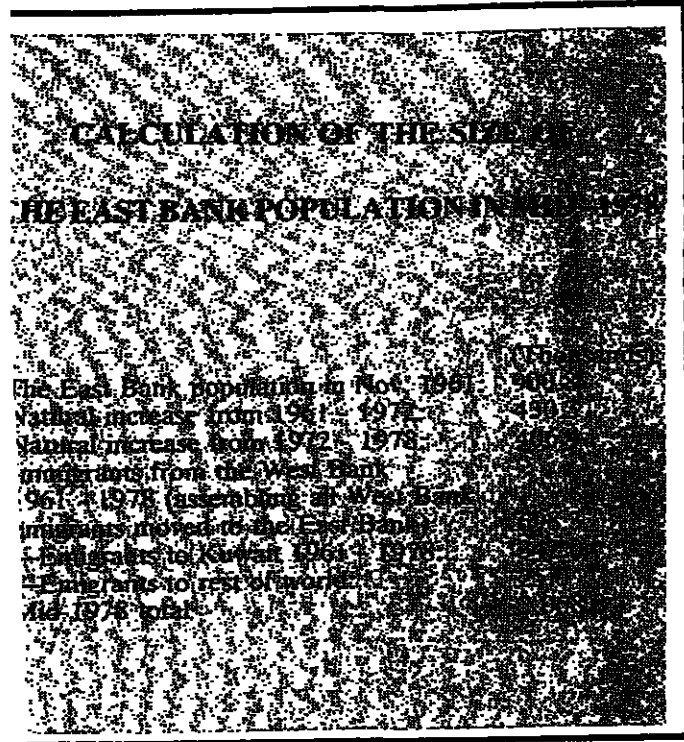
The mortality rate—the number of people who die every year—taken as a ratio of the total population—has been halved within the last two decades. Infant mortality has fallen even more rapidly. Dr. Hiyari says the official figure for mortality is now 14 per thousand. Dr. Hill puts it a more che-

erful 8.5 per thousand, but reckons that it still has a long way to fall—in Sweden the rate is reportedly about 0.9 per thousand. This means that even if women have fewer babies the population growth rate will stay high for some time.

But women are not having fewer babies. In fact Jordanian mothers are producing about as many children as any known human society throughout history. According to the Department of Statistics, the Total Fertility Rate—which is the closest statistician can get to answering the question: how many children are women having nowadays?—is 6.5. Dr. Hill believes that this figure—worked out from the 1976 fertility survey—is too low. He says Jordanian women, on the average, have eight children.

That is a very remarkable figure. The demographers' favourite theory—the "transition theory"—says basically that societies produce fewer children when they become richer, more urbanised, more educated. In Jordan the opposite has been happening. Admittedly most people think that the fertility rate has reached a peak and it will simply have to come down. But this decline has been delayed a long time considering that Jordan is, relatively speaking, such a highly educated and highly urbanised society. Many other nations in Asia which are far less developed than Jordan have much lower fertility rates. The average American woman only has 1.7 children.

It is that Arabs—or Muslims—behave differently from other people when it comes to family size? And just what implications does this have for Jordan's future development? Some kind of answer will be attempted in the following article.



## British embassy announces appointment

AMMAN, Jan. 3 (JT)—The appointment of Mr. Alan Urwick as the new British ambassador to Jordan was officially announced by the embassy here today.

Mr. Urwick, who is 48, is currently minister at the British embassy in Madrid. He has served in Amman before, as first secretary, head of chancery and consul in the 1960s. He has also served in Baghdad and Cairo and has been head of the Near East/North Africa department of the Foreign and Commonwealth Office in London.

He will succeed Mr. John Campbell Moberly, who has been ambassador in Amman since October 1975. Mr. Moberly, who is at present out of the country, will return to Amman to complete his assignment during the second half of this month. Mr. Urwick is expected to arrive in the latter half of February, embassy sources said.

Mr. Moberly is to become assistant under-secretary of state in the Foreign and Commonwealth Office with responsibility for Middle East affairs. In that position, he will succeed Mr. Michael Weir, who is becoming Britain's ambassador in Cairo.

## Hosts of Palestine refugees to meet in Amman

AMMAN, Jan. 3 (JT)—Arab countries hosting Palestine refugees have reportedly agreed in principle to hold a meeting here on Jan. 6. Subjects to be discussed at the meeting, which is to be attended by an Arab League representative, deal with plans by the United Nations Relief and Works Agency (UNRWA) to reduce its services to the refugees as of next May. The Jordanian government is said to have recently sent to U.N. Secretary General Kurt Waldheim a detailed statement concerning its own stand and that of the Palestine refugees on both sides of the Jordan with regard to UNRWA's plans to reduce its services, outlining the adverse effects which would result from such a reduction.

## Search is on for the "Plaza Suite"

AMMAN, Jan. 3 (JT)—An urgent search is being launched by the Amman Players, Jordan's local English language theatrical group, and the Hava Arts Centre for a copy of U.S. playwright Neil Simon's "Plaza Suite".

Due to some confusion in the early planning stages for a local production of the play, one thought the other was in possession of a copy, tickets were made, and it turned out that in fact no one actually had a copy.

Now Kitty Ephgrave, leader of the Amman Players and Nabil Sawalha of the Hava Arts Centre are desperately phoning all their friends and acquaintances in the hope of finding "Plaza Suite" tucked away on someone's bookshelf.

The script is needed immediately because the production date has been set for the end of January: so if you think you have it or even if you think you know someone who is likely to have a copy, call Kitty Ephgrave at 65657 or Nabil Sawalha at 65195.

## Commerce delegation plans visit to Iraq

AMMAN, Jan. 3 (JNA)—A delegation representing the Federation of the Jordanian Chambers of Commerce is to visit Iraq soon at the invitation of the Iraqi Federation of Chambers of Commerce for talks on further promoting trade relations between Iraq and Jordan, it was announced here today. The date of the visit is to be fixed later.

## National News Roundup...

Governors hold meetings on the International Year of the Child

AMMAN, Jan. 3 (JNA)—Governors throughout the country today continued meetings with locally formed committees to plan for the International Year of the Child launched by the United Nations at the start of 1979. Under-secretary of the Interior Ministry Ahmad Hindawi said that the committees are discussing ways to raise the level of motherhood and child care centres to increase nursery schools, to help set up exhibitions of children's art work and other means for raising the educational standard of Jordanian children.

Parking allowed on Mahatta Street

AMMAN, Jan. 3 (JNA)—The Traffic Department has decided to once again allow drivers to park their cars for half an hour along Mahatta Street for shopping; however only 30-minute parking will be permitted. Col. Fathi Abu Al Saud, Director of the Traffic Department said owners of premises along the street will not be allowed to park their cars there.

## TODAY'S WEATHER

A very cold air mass is approaching the Eastern Mediterranean from East Europe across Greece and Turkey expected to affect Jordan within 24 hours. Clouds will increase gradually with westerly winds freshening. Scattered rain is expected in the afternoon with temperatures decreasing. At the Aqaba Gulf weather will be hazy with southerly fresh winds and rough seas.

Temperatures:	Overnight Minimum	Daytime Maximum
Amman	3	12
Aqaba	7	19
Jordan Valley	8	16
Deserts	3	13

## APARTMENT FOR RENT

Consisting of three bedrooms, living room, dining room, built-in wardrobes, two verandas, large kitchen; with central heating.

Location: Shmeisani, near the Jordan Tower Hotel.  
For further details please call Tel. 30210

## AMMAN STOCK EXCHANGE REPORT

NAME OF COMPANY	Par Value	Volume Traded	Last Selling Price	Closing Price
Jordan Cement Factories	JD 10,000	2,653	13850	13,850
Arab Pharmaceutical Co.	JD 5,000	381	16600	16,600
Housing Bank	JD 1,000	57	1,180	1,150
Jordan-Kuwait Bank	JD 1,000	543	1,900	1,810
Jordan-Gulf Bank	JD 1,000	3,610	1,040	1,040
Jordan Electricity Co.	JD 1,000	4,182	1,360	1,330
Jordan Glass Factories	JD 1,000	307	—	0,750
Arab Aluminium Co.	JD 1,000	360	0,900	0,900
Jordan Wood Processing Co.	JD 1,000	350	—	0,850
Industrial Development Bank	JD 1,000	62	1,250	1,250
*Arab International Investment and Trade Co.	JD 5,000	246	—	3,750

Total volume traded, Wednesday, Jan. 3: JD 12,751

Total number of shares traded: 9,270

NAME OF COMPANY	Par Value	Number Traded	Year of Maturity	Selling Price
Government Development Bonds	JD 5,000	629	979	5,070
" "	" "	5	980	5,030
" "	" "	20	982	5,010

Total volume traded, JD 3,314

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For further information please contact Mr. Sami at 25622 all day.

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Please contact tel. 24833, Amman

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طريق ١٠٠٠



# An aquatic pest could become your next meal or the pages of your diary

**Water weeds: Turning a pest into a resource**  
A Report from the U.S. National Academy of Sciences

The menace of water weeds is reaching alarming proportions in many parts of the world. Water is an important resource, and aquatic weeds block irrigation canals and pumps, interfere with hydroelectricity production, waste water in evapotranspirations, hinder boat traffic, increase waterborne disease, interfere with fishing, and clog rivers and canals so that floods result.

This is a global problem, but it is particularly severe in tropical nations. In India, large irrigation projects have been rendered useless by plants that block canals, reducing water flow by as much as four-fifths. Farmers in the wet lowlands of Bangladesh annually face disaster when rafts of water hyacinth, weighing up to 300 tons per hectare, are floated over their rice paddies by floodwaters. As the floods recede, the weeds remain on the germinating rice, killing it. Panama Canal engineers have estimated that the canal would be impassable within three years without continuous aquatic weed control.

Aquatic weeds spread water snails that cause schistosomiasis, an insidious, debilitating disease. They also foster malaria and encephalitis, because mosquitoes breed between the floating plants.

Yet, aquatic weeds constitute a free crop of great potential value—a highly productive crop that requires no tillage, fertilizer, seed or cultivation. Aquatic plants have potential as animal feed, human food, soil additives, fuel and wastewater treatment.

Unfortunately there is no simple way to reduce the infestations. Herbicides, and mechanical harvest devices are the only methods used in the developed countries.

Both are expensive, and often almost impossible to use because of difficulties of maintenance and access to remote or swampy areas. Chemicals may also adversely affect the environment, and can interfere with fish production.

This report explores an alternative: the conversion of aquatic weeds to food, fertilizer, paper and fiber, and energy.

A quick-growing fish that lives on plants, the grass carp, whose meat is highly prized, prefers succulent submerged weeds (which are difficult to control by conventional techniques). Although the grass carp is native to cool-water rivers of China, it thrives in warm tropical waters and may attain a weight of over 30 kilograms.

The feeding habit of many tropical fish are barely known. A wide-ranging search for fish that eat plants and algae could locate species with important futures as aquatic weed control agents. Among known species deserving research are Tilapia species. South American silver dollar fish, and the silver carp.

Manatees, almost extinct tropical mammals, are exceptionally proficient at clearing weeds from canals. They eat many kilograms of weeds daily and will consume many different species. Until their breeding in captivity can be developed, they will only be useful in their native Latin American and West African countries, and then only if they are protected and conserved.

Among the least exploited edible freshwater organisms, crayfish, close relatives of the lobster, bring premium prices as gourmet food. In the state of Louisiana, crayfish are farmed on a large scale in rice fields where they feed

on aquatic weeds, small aquatic organisms, and the stubble left after rice has been harvested.

If carefully managed, ducks, geese and swans can clear aquatic weeds from ponds and small waterways. In so doing, they provide meat and eggs. They are particularly promising for small-farmer use in developing countries.

Many other herbivorous animals live on plants, but there has never been a systematic study of how to graze them on aquatic weeds. Animals worth testing include donkeys, pigs and sheep. If carefully managed, water buffalo will feed on aquatic plants, such as water hyacinth.

The wet, often marshy environment where aquatic weeds grow is extremely difficult to harvest; however, some ingenious devices have been developed to do it.

Typically, aquatic weeds contain only five to 15 per cent solid matter. In order to transport or use them in animal feeds or in other products, much of the water must first be removed. Pressing the water out mechanically and removing it by solar drying are two methods under development.

Fertilizer is in critically short supply in many developing countries. Many aquatic weeds contain appreciable quantities of nitrogen, phosphorus, potassium, and other fertilizer ingredients. They benefit crops and improve soil texture.

Fresh aquatic weeds usually have too much moisture to be efficient feed-stuffs. Furthermore, many are not palatable to cattle and sheep. Pressing out some of the water and ensiling the residue is a promising technique. Ensiled water hyacinth and other aquatic weeds have been relished even by

cattle used to high-grade diets.

In Romania, pulp and paper are produced on a large scale from aquatic weeds; in other parts of the world, aquatic weeds are used for thatch, furniture, mats, baskets, etc. Papyrus (source of the first paperlike writing materials), cattails, and bulrushes remain neglected but promising resources.

The U.S. space program is fermenting water hyacinth to methane gas. This offers a method by which aquatic weeds could be converted to valuable fuel. Compounds containing nitrogen and phosphorus are common pollutants in waterways. They also happen to be major ingredients in fertilizer. Some aquatic weeds can extract these materials from water and incorporate them into their own structure. These plants can be used to treat sewage so that nutrients are recovered. Experiments are under way to purify municipal sewage, industrial wastewater, and pigfarm and dairy wastewater by growing aquatic plants in them.

Only one aquatic plant is widely used as a food crop: rice. Chinese water chestnut, watercress, and other lesser known species seem worth increased exploitation.

Water hyacinth is one of the most prolific plants on earth. In one experiment, two parent plants produced 30 offspring after 23 days and 1,200 at the end of four months. Stands of 470 tons of water hyacinth per hectare, and weight gains on 4.8 per cent per day have been measured. When grown on sewage effluent, the water hyacinth's productivity can become enormous. Growth rates of the order of 800 kilograms of dry matter per hectare per day have been recorded.

The low level of dry matter has been the major deterrent to the commercial use of harvested aqu-

atic weeds. In order to obtain one ton of dry matter, 10 tons of most aquatic weeds must be harvested and processed; for the water hyacinth 20 tons must be harvested and processed just to get one ton of dry matter.

Aquatic weeds are generally between 10 and 26 percent crude protein (on a dry-matter basis)—a range similar to that found in terrestrial plants. Individual amino acids are present in amounts like those reported for land forages of similar crude-protein content. But the levels of methionine and lysine—generally considered the limiting amino acids in plant proteins—are often lower than in terrestrial crops.

The amount of minerals varies from eight to 80 per cent of the harvest (dry weight), depending on the waterway's chemical content.

The amounts of minerals in aquatic weeds are similar to those in terrestrial plants. However, aquatic plants are often richer in iron, calcium and potassium; some concentrate such minerals to very high levels. The amounts of all minerals can be exceptionally high in plants grown in sewage or agricultural and industrial wastewater.

Aquatic plants are harvested from a site at the water's edge or with a self-propelled, floating harvester. Shoreside harvesting requires that the plants float to the harvester. Rooted species must be uprooted or mowed and then moved to the harvester by boat or by wind and current. Plants can be lifted from the water by hand, crane, mechanical conveyor, or pump.

Mobile harvesters are usually expensive machines that sever, lift and carry plants to the shore. Most are intended for harvesting sub-

merged plants, though some harvest floating plants or the tops of submerged plants. Transporting the plants is difficult and expensive because of their enormous water content. Choppers make the plants much easier to handle and reduce their bulk to less than a fourth of the original volume, greatly simplifying transportation, processing and storage.

Some techniques for harvesting aquatic plants include:

—Hand harvesting may supply enough feed or soil amendment for small farms.

—A rope threaded through cork floats, or a chain of barrels can be used as barriers to retard the spread of water hyacinth.

—A boom across a flowing river can divert floating plants to the shore where they can be harvested. In one system, designed by University of Wisconsin students, many of the weeds are rooted and mechanically mowed, letting them float to the boom.

—A small mowing boat is particularly suited to cutting reeds. Cutter bars for mowing submerged weeds can be attached to small boats. Rakes for pushing the mowed vegetation to shore usually are attached to a second small boat. In the United States, the so-called "Florida airboat," powered by an airplane propeller, can

move equally well over water or weeds.

—A "clamshell" bucket, like a pair of huge jaws suspended from a crane, can pick the plants up and move them to shore. The so-called "hyballer" moves through the weeds, picking hyacinth up and throwing it to shore.

—A tractor-powered mobile harvester mounted on wheels can move water hyacinth and other weeds along a moving belt to shore. These come in a wide range of sizes.

—Finally, flotation shoes, almost as long as skis, permit workers to walk on water, greatly simplifying their work.

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This is Spider, a new British onman atmospheric submersible that can be operated at a depth of 600 metres by a diver after only 20 hours tuition. With a specialist in underwater surveillance can make deep dives for long periods to make his own on-the-spot assessments without the problems associated with the compression and decompression. The glass reinforced polyester resin (GRP) of the 2.2 metre-long Spider provides a lightweight, corrosion resistant, thermally and electrically insulated environment to a depth of 600 metres in sea water. The oxygen concentration and atmospheric pressure are continuously monitored and controlled by the operator. Carbon dioxide is removed from the Spider's atmosphere by means of an electrically powered scrubber re-circulating the air through a chemical absorber. This makes possible "shirt sleeve" diving for seabed surveying, pipeline inspection and light construction work on the sea floor. The submersible is tethered to a mother ship via a umbilical cable that carries lines for power, communications, an on-board TV camera, data transmission and is used for launch and recovery. In emergencies the cable can be jettisoned along with the ballast weights and the hydraulic power pack. Emergency batteries on board will then take over to provide 72 hours life support. Spider is propelled by six 1 horsepower thrusters—infinitely variable foot controls permitting simultaneous operation of all of them. The operator controls articulated arms that have hydraulically-powered claws with visible grip force. Suction feet lock onto underwater objects to form an anchor and the operator can vary the attitude 4 degrees backwards and 90 degrees nose down from the vertical position. The operator can even select "autopilot" control to give any desired heading.

Harvesting a pest, a machine devised by the University of Wisconsin students removes unwanted waterweeds to be turned into valuable animal fodder.

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فيلد من ايل حلو





# Mexican oil reserves could compete with OPEC temporarily

Radiologists and archaeologists are convinced Anch-Hapi was the father of Nesmin, whose mummy is on exhibit in Liverpool, England, and further discoveries are awaited. Visitors to the museum will see for themselves an annotated film of the X-ray exposures. (DaD photo)

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This agreement will give the French access to the American licence for metal oxide semiconductor integrated circuits (MOSICs).